

First Record of *Ochetostoma* for the Mediterranean Sea

(Echiura)

José Ignacio Saiz Salinas & Bernhard Ruthensteiner

Saiz Salinas, J. I. & B. Ruthensteiner (2005): First Record of *Ochetostoma* for the Mediterranean Sea (Echiura). – Spixiana 28/1: 9-11

Ochetostoma erythrogrammon, a member of the phylum Echiura is recorded from the Croatian coast (Adriatic Sea). This is the first report of the genus from the Mediterranean Sea.

José Ignacio Saiz Salinas, Universidad del Pais Vasco/EHU, E-48080 Bilbao, Apdo. 644, Spain

Dr. Bernhard Ruthensteiner, Zoologische Staatssammlung München, Münchhausenstr. 21, D-81247 München, Germany

Introduction

A complete review of the Echiura of the Mediterranean Sea has been provided by Murina (1984). She compiled a number of six species assigned to five genera.

In the course of a faunistic re-examination of Mediterranean echiurans, a sample of unidentified specimens from the Adriatic Sea lodged in the Zoologische Staatssammlung München (ZSM) showed features unknown to any previously recorded Mediterranean species. Distinct bands of longitudinal musculature were well visible through a translucent body wall. After dissection, the specimens proved to belong to the echiuran genus *Ochetostoma* Leuckart & Rüppell, 1828, previously unknown from the Mediterranean. Thus, the objective of this paper is to clarify the species identity by a morphological investigation and provide this new faunistic record.

Ochetostoma erythrogrammon

Leuckart & Rüppell, 1828

Figs 1A-D, 2A-B

Material examined: One sample with four specimens (two dissected) from a single sampling site: the Velebit Canal on the Croatian coast (Adriatic Sea), collected by

SCUBA diving by Tisch, May-June, 1962, ZSM Reg.-Nr. 20001126.

Description

The four specimens were cylindrical to sausage shaped (Fig. 1A), light-yellow to creamy in colour (as preserved in alcohol) with little tiny papillae all over the trunk, with more prominent and dense papillae in the peri-anal region (Fig. 1D). The length of the trunk was 39-43 mm and the maximum width 24 mm. The proboscis (detached in one specimen) is stout and rounded, much contracted, 7 mm long and about as wide. Body wall thin and translucent. Longitudinal muscles were gathered into 16 bands, crossed by several transverse fascicles of oblique muscle. Two dark golden hook shaped small setae are present and placed just near the mouth (Fig. 1C). The gut is extremely long, thin walled and convoluted, with calcareous sand debris inside. Gonoducts full of minute ova arranged in three pairs (Fig. 2A) with the anterior pair opening in front of the ventral setae (Fig. 1B). Their length varies from 10 mm (1st pair) to 30 mm (3rd pair). Gonostomal lips long, some of them well coiled, others little to almost not coiled. Rectal caecum present. Anal vesicles are two thin unbranched tubes (Fig. 2B), 13 mm long, light yellow in colour. They are attached to the body wall

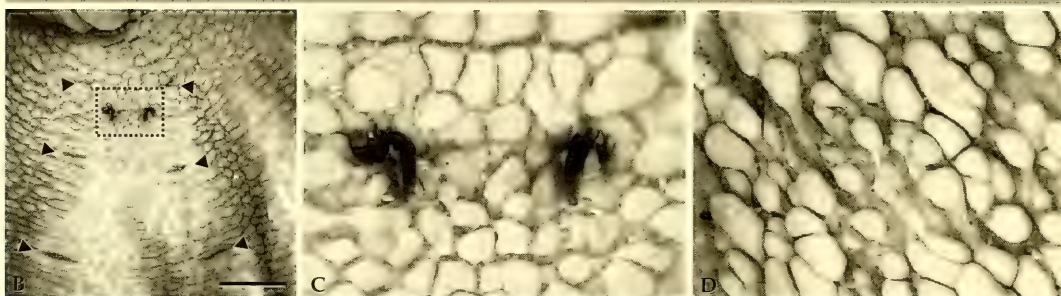


Fig. 1A-D. *Ochetostoma erythrogrammon* Leuckart & Rüppell, 1828, from Velebit Canal (Croatia). A. Specimen 1, complete. Anterior is on the right and ventral is on top. Stippled rectangle is enlarged in D. Scale bar = 10 mm. B. Specimen 2, ventral area adjacent to the proboscis, showing the depressions of the genital pores (arrow heads) and setae (in the stippled rectangle). Stippled rectangle is enlarged in C. Scale bar = 2 mm.

by mesenteries and over its surface few tiny funnels are discernible.

Discussion

Ochetostoma erythrogrammon, the type species of the genus, was originally described from the Red Sea and thereafter additionally reported from different localities of the Indian and Pacific Oceans (Stephen & Edmonds 1972) as well as tropical Atlantic waters (Mathew 1976, Biseswar 1985). There is previous information on the presence of the species in the Mediterranean already in the monograph of Stephen

& Edmonds (1972). This, however, was erroneous at that time, as they incorrectly quoted Hérubel (1904). A re-examination of this paper showed that Hérubel was dealing with the fauna of the southern part of the Red Sea, not the Mediterranean. In fact, Murina (1984) and Saiz Salinas (1987) did not include *O. erythrogrammon* in their Mediterranean faunal lists.

The genus *Ochetostoma* Leuckart & Rüppell, 1828, is classified within the subfamily Thalassematinae Monro, 1927, together with the genus *Thalassema* Lamarck, 1801, whose species *Thalassema thalasseum* (Pallas, 1766), was found in the Mediterranean Sea (Murina 1984). The closest records of other species

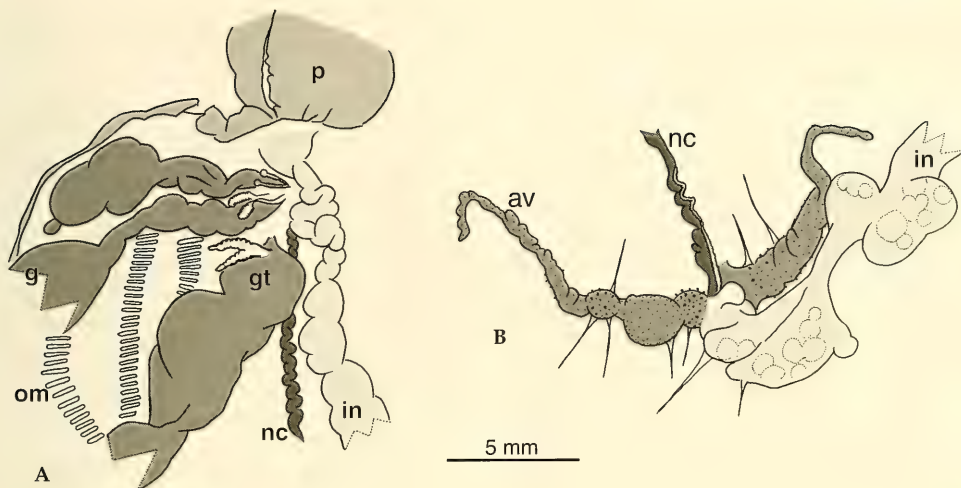


Fig. 2. *Ochetostoma erythrogrammon* Leuckart & Rüppell, 1828, from Velebit Canal (Croatia). Drawn from a dissected specimen. A. Gonoducts (g) on the left side, showing gonostomal lips (gt). B. Anal vesicles (av) and cloaca. Abbreviations: av=anal vesicles; g=gonoducts; gt=gonostomes; in=intestine; nc=nerve cord; om=oblique muscles; p=proboscis. Scale bar = 5 mm.

of the genus *Ochetostoma*, named *O. baronii* (Greef, 1872), characterised by the presence of two pairs of gonoducts (instead of three pairs) are coming from the Atlantic coast of Morocco (Hérubel 1924) and the Canary Islands (see Saiz Salinas 1987). From the Azores Islands a third species of this genus, *O. azoricum*, was recently described by Rogers & Nash (1996). According to these authors, the new proposed species differs from *O. erythrogrammon* in having 12 bands of longitudinal muscles (instead of 16), although both species keep on sharing the presence of three pairs of gonoducts.

In conclusion, the geographical distribution of *Ochetostoma erythrogrammon* Leuckart & Rüppell, 1828, has been enlarged to the Mediterranean Sea.

Acknowledgements

JISS wishes to thank funds from the contract no. PGIDT01PXI20008PR of 'Xunta de Galicia' (Spain). We thank M. Balke for valuable comments on the manuscript.

References

- Biseswar, R. 1985. The geographic distribution of Echiura from Southern Africa. – *S. Afr. J. Mar. Sci.* **3**: 11-21
- Hérubel, M. A. 1904. Liste des Sipunculides et Échiurides rapportés par M. Ch. Gravier du Golfe de Tadjourah (Mer Rouge). – *Bull. Mus. Hist. Nat., Paris* **10**: 562-565
- 1924. Quelques Echiurides et Sipunculides des côtes du Maroc et de Mauritanie. – *Bull. Soc. Sci. Nat. Phys. Maroc, Rabat* **4**: 108-112
- Mathew, J. 1976. The geographic distribution of echiurans in world oceans with special reference to the Indian forms. – In: Rice, M. E. & M. Todorovic (eds.). *Proc. Intern. Symp. Biology of Sipuncula and Echiura* **2**: 127-133. Naucno Delo, Beograd
- Murina, G.-V. 1984. Sostav i rasprostranenie echiur Sredizemnogo morya. – *Trudy Inst. Okeanologii* **119**: 82-98
- Rogers, A. D. & R. D. M. Nash 1996. A new species of *Ochetostoma* (Echiura, Echiuridae) found in the Azores with notes on its ecology. – *J. mar. biol. Ass. U.K.* **76**: 467-478
- Saiz Salinas, J. I. 1987. Verzeichnis der Echiuriden-Arten (Echiura) von den Küsten der Iberischen Halbinsel und den angrenzenden Meeren. – *Mitt. Zool. Mus. Berl.* **63**: 293-300
- Stephen, A. C. & S. J. Edmonds 1972. The Phyla Sipuncula and Echiura. – *Trustees of the British Museum Natural History, Publ. Nr.* **717**, London, 528 pp.